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Letter: screening for adrenal suppression in paediatric inflammatory bowel disease

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Philpott, Dougherty, Reed et al highlight the important issue of adrenal suppression (AS) as a complication of corticosteroid therapy in their systematic review of AS in eosinophilic oesophagitis. They conclude that a "non-trivial minority" of patients had abnormal cortisol values (crude rate of 15.8%) but correctly point out that the preference for random serum cortisol measurements rather than dynamic ACTH stimulation testing risks underestimating the true incidence of this well-recognised, potentially serious, complication of corticosteroid therapy.[1]

We carried out a Europe-wide survey of practice to assess current practice regarding screening of adrenal suppression in inflammatory bowel disease (IBD) in children. A comprehensive systematic review of adrenal suppression in paediatric IBD is currently lacking, but individual studies have reported rates between 20% and 89%.[2,3]

In the paediatric population, a 10 week course of systemic glucocorticoids is frequently prescribed to induce remission[4], the cumulative dose of which has long been recognised to have the potential to suppress the hypothalamic-pituitary-adrenal axis for up to a year post-treatment[5]. Symptoms of AS can range from life-threatening adrenal crisis to more subtle chronic symptoms including fatigue, abdominal pain and diarrhoea. The latter clearly have the potential to mimic IBD symptoms and lead to inappropriate escalation of immunosuppressive treatment.

Our electronic survey was sent to clinicians at 113 tertiary centres for paediatric IBD via mailing lists to members of the British Society of Paediatric Gastroenterology, Hepatology and Nutrition

(BSPGHAN), and the IBD working group of the European Society of Gastroenterology, Hepatology and Nutrition (ESPGHAN), which includes the expert Paediatric IBD Porto group; forty nine responses were returned (43% return rate). Although all clinicians were aware of AS as a potential side effect of glucocorticoid treatment, only 74% had ever tested a patient for AS, with investigation(s) performed most commonly after prolonged courses of steroids (i.e. beyond the standard 10-week course) and/or in the presence of AS symptoms. Clinicians from the UK were not statistically more likely to do any testing compared to international clinicians (91% [20/22] vs 72% [13/18] (p = 0.26). (Fig 1)

Of those that did any testing for adrenal suppression, 17/33 (52%) used a standard or low dose ACTH stimulation test and 15/33 (45%) used early morning cortisol levels. Timing of investigation(s) varied considerably, from during the final phase of treatment (e.g. 1-5mg prednisolone per day) to months after the course had finished.

These results highlight the high degree of variability in practice across Europe when screening for adrenal suppression in children with IBD. This is in stark contrast to other specialties who have adopted a more consistent approach, notably screening of children receiving high dose inhaled corticosteroids for asthma, following high profile fatalities and a recognition of the morbidity of chronic adrenal insufficiency symptoms[6]. Following on from Philpott and Dougherty's work in eosinophilic oesophagitis, a comprehensive review of literature reporting rates of adrenal suppression in inflammatory bowel disease is also needed, as well as prospective studies (ideally using ACTH stimulation testing) in both these populations, to better inform what is currently a highly variable practice.

References

1. Philpott H, Dougherty MK, Reed CC, et al. Systematic review: adrenal insufficiency secondary to swallowed topical corticosteroids in eosinophilic oesophagitis. Aliment Pharmacol Ther. 2018;47:1071–1078.

2. Sidoroff, Kohlo. Screening for adrenal suppression in children with inflammatory bowel disease discontinuing glucocorticoid therapy. BMC Gastroenterology 2014; 14:51.
3. Escher JC. Budesonide versus prednisolone for the treatment of active Crohn's disease in children: a randomized, double-blind, controlled, multicentre trial. Eur J Gastroenterol Hepatol 2004; 16:47-54.
4. Ruemmele FM, Veres G, Kolho KL et al. Consensus guidelines of ECCO/ESPGHAN on the medical management of pediatric Crohn's disease. J Crohn's Colitis 2014;8(10):1179–207.
5. Shulman DI, Palmert MR, Kemp SF. Adrenal Insufficiency: Still a Cause of Morbidity and Death in Childhood. Pediatrics 2007;119(2):e484–94.
6. Ahmet A, Kim H, Spier S. Adrenal suppression: a practical guide to the screening and management of this under-recognized complication of inhaled corticosteroid therapy. Allergy, Asthma Clin Immunology 2011;7(13).

Figure 1 legend Figure 1. Responses to question: "Do you routinely test for adrenal suppression in your IBD patients completing a course of glucorticoid (steroid) therapy?)" (more than one response allowed)

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